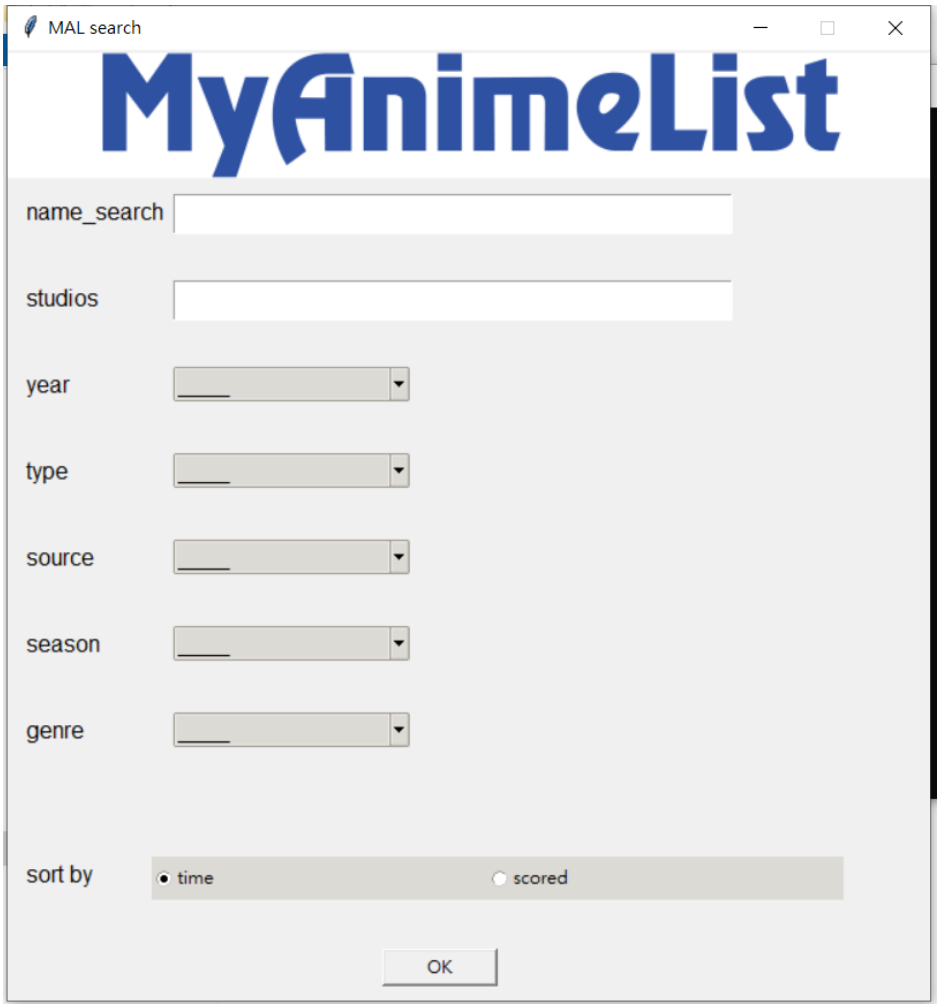
Introduction to Database Systems - HW3

searching tool for MAL (myanimelist) website

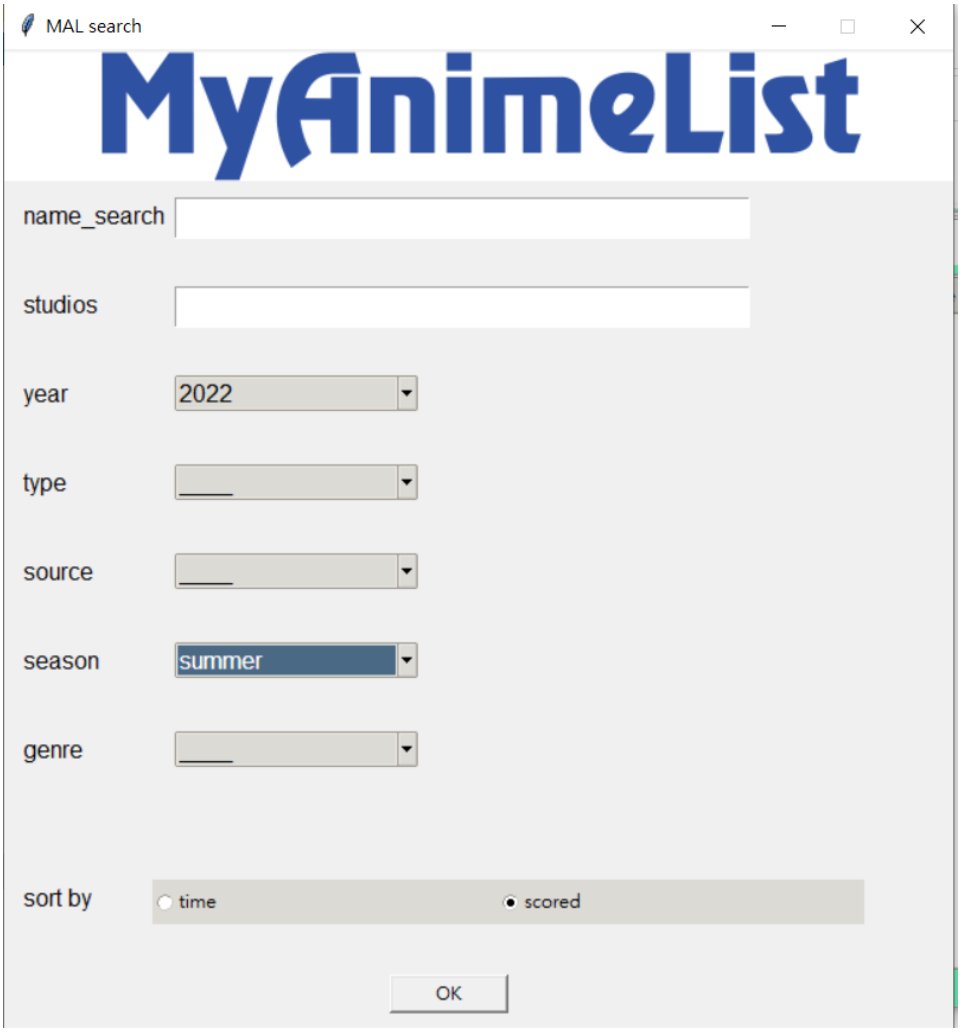
1. Motivations

   I personally like to watch anime. So this project I want to simulate a anime search tool, which can use the data collect from this anime information website. And I thick this can help people like me can find needed data quicker and get what anime I can see next.

2. Application description



The above picture is the simple gui I made for this application. As you can see there are many searching condition. The anime name and its produce company use entry to input string. And other searching condition I use combobox to input. The searching result will output in a new window with (animeID,name,season,year,type,episodes,source,scored,scoredBy,members)
And double click the target can open the link of that anime on MAL website.



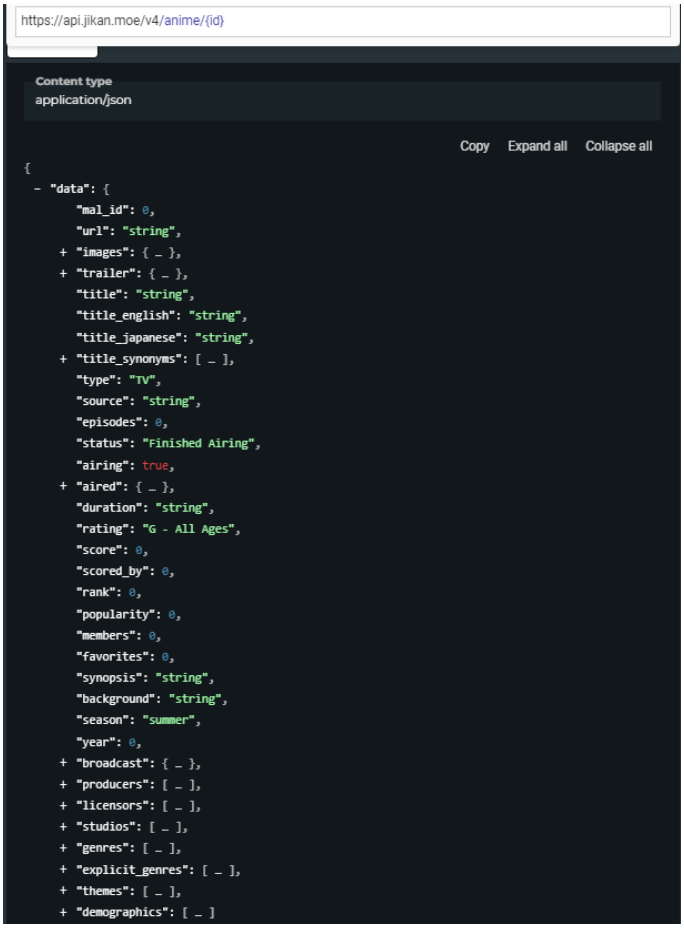
(searching example)

animeID	name	season	year	type	episodes	source	scored	scoredBy	members
35335	Musashino!	summer	2022	TV	None	Original	None	None	5515
38006	Renmei Kuugun Koukuu Mahou Ongakutai I	summer	2022	TV	None	Original	None	None	11105
40590	Utawarerumono: Futari no Hakuoro	summer	2022	TV	28	Visual novel	None	None	14526
41084	Made in Abyss: Retsujitsu no Ougonkyou	summer	2022	TV	None	Web manga	None	None	154474
41589	Tokyo Mew Mew New♡	Summer	2022	TV	None	Manga	None	None	19693
42963	Kanojo, Okarishimasu 2nd Season	Summer	2022	TV	None	Manga	None	None	215203
42994	Jashin-chan Dropkick X	Summer	2022	TV	None	Web manga	None	None	10333
44524	Isekai Meikyuu de Harem wo	Summer	2022	TV	None	Light novel	None	None	37911
45653	Soredemo Ayumu wa Yosetekuru	Summer	2022	TV	None	Manga	None	None	50491
47163	Tensei Kenja no Isekai Life: Dai-2 no Shokug	Summer	2022	TV	None	Light novel	None	None	45232
47164	Dungeon ni Deai wo Motomeru no wa Mac	Summer	2022	TV	None	Light novel	None	None	127942

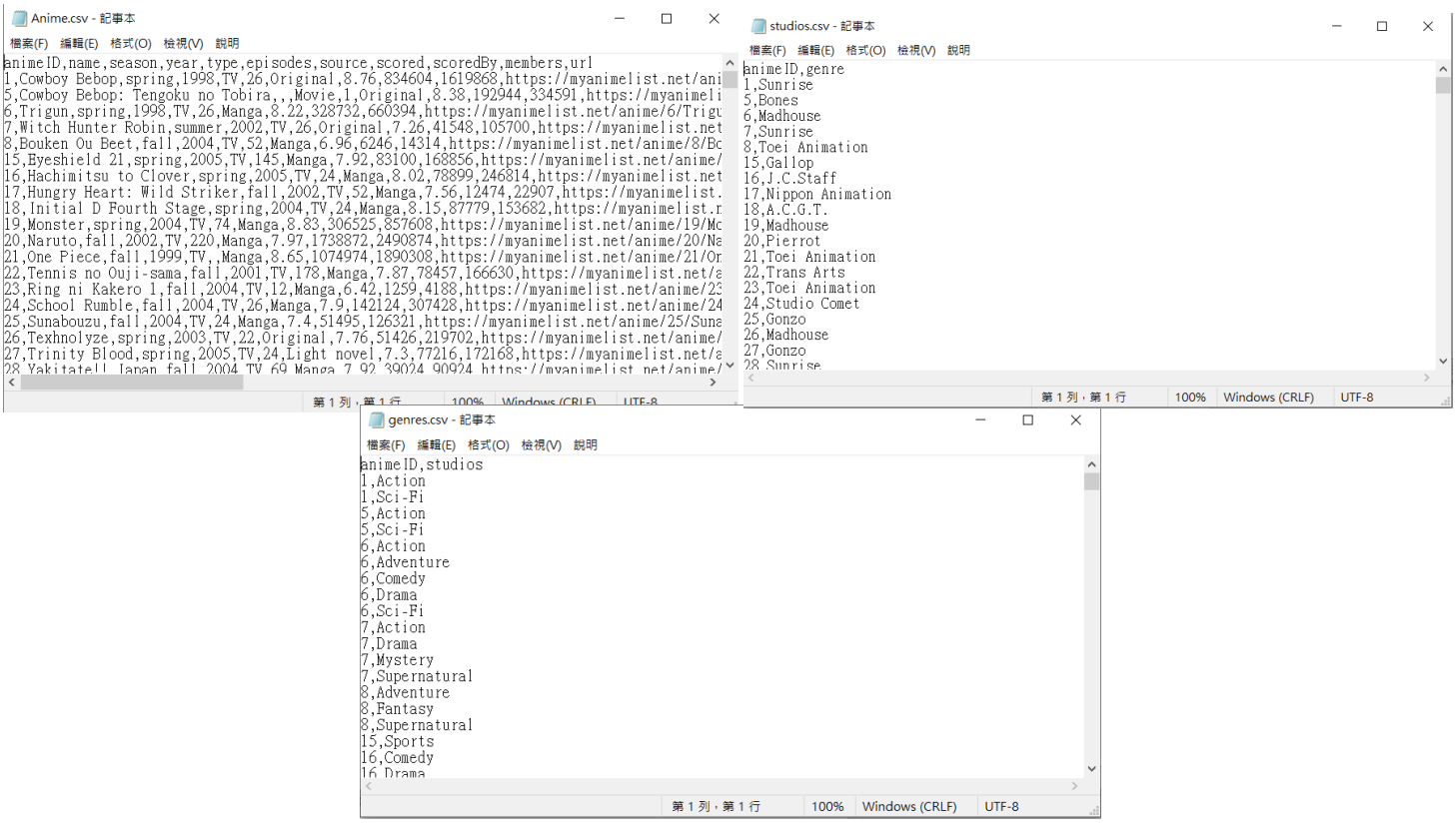
(searching example result)

3. Data sources and how you collect and import the data (manually or automatically)

   Jikan is a unofficial MAL API which can get many information of MAL.

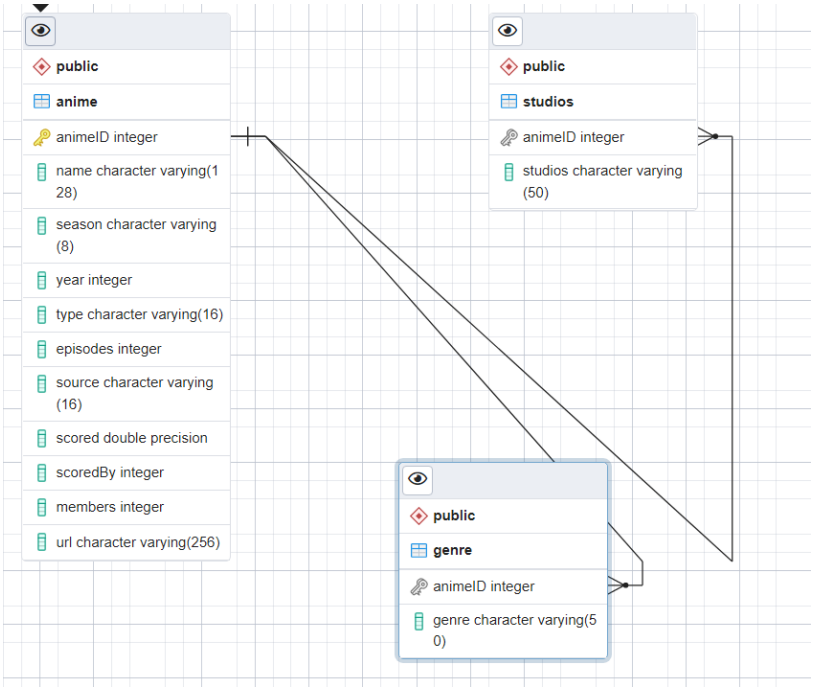


I select get the data I need for my application from this API by getAnime.py. because genres and studios may have multivalue. So I write this two information to two other csv. So this program will output three csv file 'Anime.csv' , 'studios.csv' , 'genres.csv', all the attribute are functional dependency on animeID ,the table should be at least BCNF



And I import this three csv to database manually

4. Database schema (you can use the visualization tool in DBMS directly, and list constraints that are not in the figure)



5. related SQL queries used for the function.
   The default sql queries is
   select
   a."animeID",a."name",a."season",a."year",a."type",a."episodes",a."source",a."scored",a."scoredBy",a."members",a."url"
   'from anime as a'
   where a."animeID"=a."animeID"

   program will receive query return and output to new window, if user have some input ,according to the input, the program will add more query constrain after { where a."animeID"=a."animeID"}